tions, substitutions, changes, and equivalents will now occur to those skilled in the art. It is, therefore, to be understood that the appended claims are intended to cover all such modifications and changes as fall within the scope of the implementations. It should be understood that they have been presented by way of example only, not limitation, and various changes in form and details may be made. Any portion of the apparatus and/or methods described herein may be combined in any combination, except mutually exclusive combinations. The implementations described herein can include various combinations and/or sub-combinations of the functions, components, and/or features of the different implementations described.

What is claimed is:

1. A computer-implemented method comprising:

at least one processing device; and

memory storing instructions that when executed cause the processing device to perform operations including:

obtaining, from a first tracking system, an initial three-dimensional (3D) position of an electronic device in relation to image features captured by a camera of the electronic device;

obtaining, from a second tracking system, an orientation associated with the electronic device; and

responsive to detecting a movement of the electronic device:

obtaining, from the second tracking system, an updated orientation associated with the detected movement of the electronic device;

generating and providing a query to the first tracking system, the query corresponding to at least a portion of the image features and including the updated orientation and the initial 3D position of the electronic device;

receiving, responsive to the query, a plurality of position changes for the portion of the image features in relation to the initial 3D position of the electronic device;

generating, for a sampled number of the plurality of position changes, an updated 3D position for the electronic device;

generating a 6-DoF pose using the updated 3D positions and the updated orientation for the electronic device; and

providing, for display on the electronic device, a camera feed depicting movement of the image features based on the movement of the electronic device, according to the generated 6-DoF pose.

2. The method of claim 1, wherein the updated 3D positions are generated using a periodic sampling of three dimensions of data for a plurality of image frames representing the position of the portion of the image features relative to the position of the electronic device.

3. The method of claim 2, wherein the periodic sampling is performed using a threshold frame rate configured to reduce jitter in the movement of the portion of the image features depicted in the camera feed provided based on the generated 6-DoF pose.

4. The method of claim 1, wherein providing the camera feed depicting movement of the image features based on the movement of the electronic device according to the 6-DoF pose includes providing placement of virtual objects associated with the user in the camera feed according to the 6-DoF pose each time the electronic device is moved.

5. The method of claim 1, wherein the image features include:

portions of a face of a user being captured by the camera of the electronic device, the camera being a front facing camera; and

augmented reality content associated with the user being captured by the front facing camera.

6. The method of claim 1, wherein:

the first tracking system executes a facial feature tracking algorithm configured to determine 3D location changes for the image features associated with at least one selected facial feature; and

the second tracking system is an inertial measurement unit (IMU) installed on the electronic device.

7. The method of claim 1, wherein combining output from the first tracking system and output from the second tracking system enables tracking and placement of augmented reality content based on the generated 6-DoF pose, and responsive to the detected movement of the electronic device.

8. The method of claim 1, wherein obtaining the updated orientation associated with the detected movement of the electronic device from the second tracking system is performed in response to determining that the first tracking system is unable to provide both the position and orientation with 6-DoF.

9. An electronic device comprising:

a first tracking system configured to generate a 6-DoF pose for the electronic device corresponding to image features depicted in a camera feed displayed by the electronic device, the 6-DoF pose being generated from:

a determined orientation for the electronic device, and

a determined position for the electronic device, the determined position calculated using a facial feature tracking algorithm configured to detect three-dimensional location changes for at least one selected facial feature in the image features in the camera feed displayed by the electronic device;

a second tracking system including at least one inertial measurement unit (IMU) for determining an orientation of the electronic device in three-dimensional space; and

at least one processor coupled to memory and configured to:

trigger the first tracking system to generate the 6-Dof pose for the electronic device if the first tracking system operates within a predefined confidence threshold;

trigger the second tracking system to generate an alternate 6-DoF pose if the first tracking system failed to operate within the predefined confidence threshold, the alternate 6-DoF pose generated by combining the determined position from the first tracking system and the orientation of the second tracking system; and

trigger, for display on the electronic device, an updated camera feed depicting movement of the image features based on the 6-DoF pose or the alternate 6-DoF pose according to the determined operation of the first tracking system with respect to the predefined confidence threshold.

10. The electronic device of claim 9, wherein the determination of whether the first tracking system operates within the predefined confidence threshold is performed upon detecting movement of the electronic device.

11. The electronic device of claim 9, wherein the facial feature tracking algorithm of the first tracking system is configured to perform, upon detecting movement of the electronic device, a determination of an updated position of the electronic device relative to the at least one facial